

The opinion in support of the decision being entered
today was not written for publication and
is not binding precedent of the Board.

Paper No. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YUKIO TAKANO, RYUICHI KOJO and TAKAYUKI HIROTA

Appeal No. 1997-3524
Application No. 08/336,402

HEARD: December 12, 2001

Before WARREN, KRATZ, and JEFFREY T. SMITH, Administrative Patent
Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to
allow claims 1-25, as amended after final rejection. No other
claims remain pending in this application.

BACKGROUND

Appellants' invention relates to a porous member having
restricted passages which are in communication with and smaller
than the pores of a porous body. Appellants indicate that the

appealed claims "do not stand or fall together" (brief, page 8). Consequently, we shall address appellants' claims separately to the extent justified by appellants' arguments. We note, however, that merely pointing out differences in the scope of claims is not considered to be an argument as to why the claims are separately patentable. See 37 CFR § 1.192(c)(7) and (c)(8) (1996). An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A porous member comprising a porous body having an outer surface portion and a number of internal pores, said outer surface portion of the porous body being covered by a surface layer comprised of fine particles which are impregnated in the outer surface portion of the porous body and which have been subjected to a heat treatment to form restricted passages which are in communication with, and smaller in size than said pores.

The sole prior art reference¹ of record relied upon by the examiner in rejecting the appealed claims is:

Pall et al. (Pall) AU Pat. No. 275864 June 11, 1964

Claim 25 stands rejected under 35 U.S.C. § 112, first paragraph as lacking descriptive support in the original

¹ The examiner refers to U.S. Pat. No. 5,296,288 and U.S. Pat. No. 5,268,031 at page 11 of the answer. However, those patents have not been relied upon by the examiner in rejecting the claims. Consequently, we have not considered the teachings of those patents in deciding this appeal. See In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970).

specification. Claim 6 stands rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as invention. Claims 1-4 stand rejected under 35 U.S.C. § 102 as being anticipated by Pall. Claims 1-6 and 21-23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Pall.² Claims 7-20, 24 and 25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Pall.

Rather than reiterating the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejections, we make reference to the examiner's answer and to appellants' briefs for a complete exposition thereof.

OPINION

We shall sustain the examiner's § 112, first paragraph rejection of claim 25, the examiner's § 102 rejection of claims

² The examiner does not list claim 23 as a rejected claim in the § 103 rejections set forth in the answer. However, claim 23 was included via an apparent handwritten interlineation in the first of the two separately stated § 103 rejections over Pall set forth in the final rejection (page 5). Since the examiner (answer, page 3, item No. 6) has indicated that appellants' statement of the issues set forth in the brief is correct and appellants list claim 23 as one of the appealed claims standing rejected under 35 U.S.C. § 103 as being unpatentable over Pall in item No. 5 of the Issues section of the brief and argue the rejection as to that claim (brief, page 25, line 4), we consider the examiner's failure to list claim 23 in the § 103 rejections set forth in the answer as an inadvertent oversight. Accordingly, like appellants and the examiner, we consider the § 103 rejection of claim 23 over Pall as set forth in the final rejection to be maintained by the examiner and an issue presented for our review on this appeal.

1 and 4, the examiner's § 103 rejection of claims 1, 2, 4-7, 14, 19 and 21-25. However, we reverse all of the other rejections advanced by the examiner. Our reasoning follows.

Rejection under 35 U.S.C. § 112, second paragraph

The relevant inquiry under 35 U.S.C. § 112, second paragraph, is whether the claim language, as it would have been interpreted by one of ordinary skill in the art in light of appellants' specification and the prior art, sets out and circumscribes a particular area with a reasonable degree of precision and particularity. See In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

The examiner's concern is with an alleged failure of the language of dependent claim 6 to define the claimed invention. In this regard, the examiner asserts that the claim 6 requirement that the porous member comprise a pneumatic bearing, a magnetic tape guide member, a filter, or a ceramic article casting mold is an alleged intended use without a further limitation of the claimed subject matter. We disagree substantially for the reasons set forth by appellants at page 14 of the brief. Consistent with the specification, we find that appellants'

language in limiting the porous body as specified in claim 6 reasonably sets forth a limitation of the porous body as to the structure thereof that would be understood by one of ordinary skill in the art. Consequently, the examiner has not established how claim 6 runs afoul of the provisions of the second paragraph of 35 U.S.C. § 112.

In sum, the examiner has not explained why the language of claim 6, as it would have been interpreted by one of ordinary skill in the art in light of appellants' specification and the prior art, fails to set out and circumscribe a particular area with a reasonable degree of precision and particularity. Consequently, we reverse the rejection under 35 U.S.C. § 112, second paragraph.

Rejection under § 112, first paragraph

We note that whether a specification complies with the written description requirement of 35 U.S.C. § 112, first paragraph, is a question of fact. Gentry Gallery Inc. v. Berkline Corp., 134 F.3d 1473, 1479, 45 USPQ2d 1498, 1502 (Fed. Cir. 1998); In re Alton, 76 F.3d 1168, 1175, 37 USPQ2d 1578, 1583 (Fed. Cir. 1996). The test for determining compliance with the

written description requirement of 35 U.S.C. § 112, first paragraph, is whether the disclosure of the application as originally filed would have reasonably conveyed to one of ordinary skill in the art that the inventor had possession of the later claimed subject matter. Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991). The subject matter of the claims need not be described identically or literally for the application to satisfy the written description requirement of 35 U.S.C. § 112, first paragraph. In re Kaslow, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983). However, the description of the invention must be sufficiently clear that one of ordinary skill in the art would have recognized from the disclosure that the applicants invented the later claimed subject matter. In re Wertheim, 541 F.2d 257, 262, 191 USPQ 90, 96 (CCPA 1976).

Here, the examiner urges that the method of claim 25 including the limitation requiring an "under ambient pressure" condition for the contacting of the outer surface portion of the porous body with a treating liquid was not set forth in the application as filed so as to reasonably convey to one skilled in

the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention (answer, page 4). Appellants, on the other hand urge that the drawing figures 4-7 and the corresponding discussion of those figures in the specification, as originally filed, show that an ambient atmosphere surround the vessel and disk in drawing figure 4 and the sol and disk in drawing figure 5 (brief, pages 12 and 13 and reply brief, pages 8 and 9) and hence supports the "under ambient pressure" limitation of claim 25.

We find ourselves in agreement with the examiner's conclusion with respect to this matter. While drawing figures submitted with the original application are part of the original disclosure as urged by appellants, we are of the view that one of ordinary skill in the art would not have determined that the inventor had possession of an ambient pressure limitation as to the porous body and treating liquid contacting step from the original application disclosure including the depictions in the drawing figures. In this regard, we note that even if we could agree with appellants that an ambient atmosphere surrounds the vessel and disk depicted in appellants' drawing figure 4 and the

sol and disk depicted in appellants' drawing figure 5 as argued, appellants have not pointed to a particular description of those drawing figures in the application, as filed, that describes the use of ambient pressure as claimed, or advanced a persuasive argument that explains how the presence of an ambient atmosphere surrounding the items in those drawing figures would necessarily result in an ambient pressure at the submerged location where the treating liquid contacts the outer surface portion of the porous body. We note that pressures under the surface of a body of liquid would have been reasonably expected to be greater than the surrounding ambient atmosphere above a body of liquid. Consequently, we will sustain the examiner's 35 U.S.C. § 112, first paragraph rejection of claim 25.

Rejection under § 102

Initially we note that anticipation by a prior art reference does not require that reference to recognize either the inventive concept of the claimed subject matter or the inherent properties that may be possessed by the prior art reference. See Verdegaal Bros. Inc. v. Union Oil Co., 814 F.2d 628, 633, 2 USPQ2d 1051, 1054 (Fed. Cir. 1987), cert. denied, 484 U.S. 827 (1987). A

prior art reference anticipates the subject matter of a claim when the reference discloses every feature of the claimed invention, either explicitly or inherently (see Hazani v. Int'l Trade Comm'n, 126 F.3d 1473, 1477, 44 USPQ2d 1358, 1361 (Fed. Cir. 1997) and RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984)); however, the law of anticipation does not require that the reference teach what the appellants are claiming, but only that the claims on appeal "read on" something disclosed in the reference (see Kalman v. Kimberly-Clark Corp., 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984)). Anticipation under this section is a factual determination. See In re Baxter Travenol Labs., 952 F.2d 388, 390, 21 USPQ2d 1281, 1283 (Fed. Cir. 1991) (citing In re Bond, 910 F.2d 831, 833, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990)). In the case before us, we determine that Pall discloses, either expressly or inherently, every limitation of the invention set forth in claim 1.

The examiner has correctly found that Pall fairly describes a porous member that corresponds to the article of claim 1 including a porous body having pores that have restricted

passages formed therein. See pages 4 and 5 of the answer. We note that Pall discloses that a particulate material is deposited into the pores of a porous material so that the pore diameter of the pores is reduced or restricted to a pore diameter of less than 25 microns over a portion of the length of the pores. See page 3, lines 11 through page 5, line 11 and Examples 1-3 of Pall.

Appellants maintain (brief, page 15) that claim 1 distinguishes over Pall (Au '864) since

this claim defines that the restricted passages of the porous member are formed through *heat treatment* of fine particles impregnated in the outer surface portion of a porous body, whereas the micropores in the porous members of Au '864 are formed through *pressurization treatment* of a non-woven fibrous bat of material (or the like) using a slurry of particles.

As appellants acknowledge in their argument, claim 1 defines the claimed product article at least in part by the method of preparing the product. Since appellants' claim 1 and the claims which depend therefrom are in product-by-process form, the patentability of those claims is determined based on the product itself, not on the method of making it. See In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985) ("If the

product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior art product was made by a different process."). Whether a rejection is under 35 U.S.C. § 102 or § 103, when the appellants' product and that of the prior art appear to be identical or substantially identical, the burden shifts to the appellants to provide evidence that the prior art product does not necessarily or inherently possess the relied-upon characteristics of the appellants' claimed product. See In re Fitzgerald, 619 F.2d 67, 70, 205 USPQ 594, 596 (CCPA 1980); In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977); In re Fessmann, 489 F.2d 742, 745, 180 USPQ 324, 326 (CCPA 1974). The reason is that the Patent and Trademark Office is not able to manufacture and compare products. See Best, 562 F.2d at 1255, 195 USPQ at 434; In re Brown, 459 F.2d 531, 535, 173 USPQ 685, 688 (CCPA 1972).

Here, even if we could agree with appellants' assessment that Pall discloses a method for forming the micropores (restricted passages) that differs somewhat from appellants' method of formation as delineated in product claim 1, appellants

have not shouldered the shifted burden of furnishing evidence to establish that the prior art product does not inherently or necessarily possess the product characteristics of the claim 1 product. In this regard, we note that appellants' references to the preferred embodiments of the specification in the reply brief in an attempt to establish a structural distinction for the product of claim 1 are misplaced since claim 1 is not so limited. See In re Self, 671 F.2d 1344, 1350-1351, 213 USPQ 1, 7 (CCPA 1982) (when the claim does not recite allegedly distinguishable features, "appellant[s] cannot rely on them to establish patentability."). Nor have appellants furnished separate arguments for the patentability of product claim 4, which depends from claim 1. Consequently, on this record, we shall sustain the examiner's § 102 rejection of claims 1 and 4 as anticipated by Pall.

With respect to the examiner's § 102 rejection of claims 2 and 3 as anticipated by Pall, we agree with appellants (brief, pages 19 and 20 and the reply brief) that the examiner has not reasonably established that Pall necessarily describes a ceramic porous member as required by claim 2 or a mean pore diameter on

the order of 10 microns as required by claim 3. Consequently, we shall reverse the examiner's § 102 rejection as to the latter claims.

Rejections under § 103

In view of the above discussion, we shall likewise sustain the examiner's § 103 rejection of claims 1 and 4 over Pall since a disclosure that anticipates under 35 U.S.C. § 102 also renders the claim unpatentable under 35 U.S.C. § 103, for "anticipation is the epitome of obviousness." Jones v. Hardy, 727 F.2d 1524, 1529, 220 USPQ 1021, 1025 (Fed. Cir. 1984). See also In re Fracalossi, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982); In re Pearson, 494 F.2d 1399, 1402, 181 USPQ 641, 644 (CCPA 1974).

While we find that Pall anticipates and hence renders the product of claims 1 and 4 prima facie obvious for the reasons outlined above, we further determine that one of ordinary skill in the art would have been led to a product embraced by claims 1 and 4 by simply following the teachings of Pall and selecting appropriate materials and deposition conditions from the small list of deposition materials and formation conditions disclosed and suggested by Pall. We note that a prior art reference may be

relied upon for all that it would have reasonably conveyed to one having ordinary skill in the art. See In re Beattie, 974 F.2d 1309, 1312, 24 USPQ2d 1040, 1042 (Fed. Cir. 1992); In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); Merck & Co., Inc. v. Biocraft Laboratories, Inc., 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir. 1989).

Moreover, for the reasons set forth above and by the examiner in the answer, we do not find appellants' arguments as set forth in the briefs, which read more into those claims than we can find there, particularly persuasive.

While we disagree with the examiner's conclusion that the product set forth in dependent claim 2 is anticipated by Mitchell, we find ourselves in agreement with the examiner's determination that Mitchell renders the product of claim 2 prima facie obvious. In this regard, we note that Pall (page 5, line 13 through page 7, line 5) teaches that a wide variety of materials including heat resistant and ceramic forming materials such as asbestos and aluminum silicate may be selected for use in making the porous body useful as a filter which reasonably would have led one of ordinary skill in the art to select a ceramic

material for making the filter of Pall.³ Notwithstanding appellants' protestations to the contrary, this obviousness conclusion is buttressed by Pall's discussion (page 32, lines 5-11) with respect to advantages of a filter made according to Pall's invention over available prior art microporous membranes and ceramic filters. Consequently, we agree with the examiner that a ceramic product corresponding to the product of claim 2 is reasonably suggested by Pall.

With regard to dependent claim 5, we agree with the examiner that Pall suggests the use of a mixture of particle sizes for the particles used to impregnate the pores of the porous body. See, e.g. page 2, lines 1-10, page 4, line 19 through page 5, line 11, page 7, line 6 through page 8, line 23, page 10, lines 12-16, page 13, lines 12-14 and page 15, lines 1-10 of Pall. Given the result effectiveness of the sizes of the particles employed as discussed by Pall, we agree with the examiner that one of ordinary skill in the art would have arrived at the use of particle sizes so as to result in a final product that is

³ See the definitions of aluminum silicate, asbestos, ceramic and refractory at pages 38, 81, 183 and 755 of Hawley, The Condensed Chemical Dictionary, 8th ed. (1971), Van Nostrand Reinhold Company (copy attached to decision).

substantially indistinct from the product of claim 5. While much is made by appellants regarding the claim 5 process requirement of employing .01 to 1 micron mean diameter particles in forming their product porous member, appellants have not established that products within the scope of claim 5 that are made with the use of such particles are patentably distinct from the product of Pall.

With regard to dependent claim 6, appellants have not furnished a separate argument in accordance with 37 CFR § 1.192(c)(7) and (c)(8) (1996). Accordingly, our disposition of the examiner's § 103 rejection of dependent claim 6 follows from our disposition of that rejection as to independent claim 1. See In re Nielson, 816 F.2d 1567, 1570, 2 USPQ2d 1525, 1526-1527 (Fed. Cir. 1987).

Concerning product claims 21 and 22, we note that the added features of those dependent claims are drawn to refinements with respect to how the product is made. Absent evidence or persuasive scientific reasoning explaining how the alleged process limitations recited in those claims necessarily result in a patentably distinct product, we find ourselves in agreement

with the examiner that appellants have not met their burden of establishing a patentable product distinction over Pall with respect to those product-by-process claims. Nor have appellants shown that the cracks referred to in claim 21 are patentably distinct from the passages formed by the impregnation techniques of Pall. We also note that unclaimed features cannot be relied on to distinguish those claims from the applied prior art.

With regard to dependent claim 23, we agree with the examiner that Pall reasonably suggests that the porous member may comprise a rigid member since Pall suggests that a variety of materials, including aluminum and plastics may be used for constructing the porous body as set forth at page 5, lines 12+ of Pall. Appellants' contentions with respect to the relative thickness of the porous members of Pall (reply brief, page 12) are not found persuasive since claim 23 does not require any particular thickness for the claimed porous body or any particular degree of rigidity or firmness.

For the reasons set forth above and in the answer, we shall sustain the examiner's § 103 rejection of product claims 1, 2, 4-6 and 21-23.

However, our disposition of the examiner's § 103 rejection of product claim 3 over Pall is another matter. Here, we agree with appellants that Pall does not teach using a porous member with a mean pore diameter as recited in claim 3 and the examiner has not reasonably established how Pall would have suggested formation of a porous member with pores having a mean diameter on the order of 10 microns together with restricted passages of a smaller size communicating therewith as required by claim 3.

With respect to method claim 7, we find ourselves in agreement with the examiner that Pall reasonably suggests the recited method including the steps of forming a surface layer comprised of fine particles on the outer surface of a porous member having internal pores via impregnation and heat treating the layer so as to form restricted passages. See page 2, line 11 through page 5, line 11, page 6, lines 3-14, page 7, line 16 through page 8, line 18 and page 17, line 3 through page 18, line 22 of Pall.

Appellants seemingly base their argument against the examiner's rejection of claim 7 on the notion that the heat treatment step of claim 7 somehow defines over the heat treatment

steps disclosed by Pall as part of the formation of the final product. We disagree. With regard to the functional limitation of "thereby forming restricted passages" as recited in claim 7, we note that the heat treatment of Pall also has the function of being a part of the formation of the micropores (restricted passages) therein. In this regard, we note that claim 7 is open to the heat treatment recited therein functioning as a drying step or curing step that is part of the restricted passage formation method. We note that claim 7 is not limited to the preferred embodiments referred to at page 5 of the reply brief. Consequently, we do not find appellants' contentions regarding a fundamental distinction over Pall with respect to this step to be persuasive.

With regard to dependent claim 14, we note that no lower limit for the temperature range recited is specified. Consequently, we agree with the examiner's conclusion that Pall reasonably suggests a heat treatment temperature within the scope of claim 14.

With regard to claim 19, appellant (brief, page 25) urges that Pall does not teach the use of a resin emulsion as required

by that claim or decomposition thereof as a result of heating. However, Pall (page 17, line 2 through page 18, line 22) does disclose that a solution or dispersion form of a resin may be employed as a binder and that subsequent heat treatment in an oven may be effected to cure (decompose) the binder resin. In light of that disclosure of Pall, we do not find appellants' additional contentions with respect to dependent claim 19 persuasive of the unobviousness of the subject matter of that claim.

With respect to dependent claim 24, we do not find appellants' arguments convincing of unobviousness for reasons analogous to those set forth with respect to dependent claim 23 as discussed above.

Concerning dependent claim 25, we agree with the examiner that Pall would have reasonably suggested using ambient pressure conditions for the impregnation since Pall (page 5, lines 1-10) teaches that the particle deposition or impregnation step may be performed so as to only fill a portion of the pores which would have suggested to one of ordinary skill in the art that immersion or dipping of one side of the porous material in the particle

containing fluid would have been effective for impregnation. Moreover, while Paul may discuss the use of a differential pressure at page 14 of the patent in the examples furnished, such a differential pressure does not preclude the use of ambient pressure at the impregnation surface. Nor is Pall limited to the use of pumps for the impregnation as mentioned in some of the examples. Indeed, the preamble to the sentence beginning at page 15, line 11 of Pall regarding the alternative of an arbitrary force being applied during deposition reasonably suggests that ambient pressure impregnation is contemplated by Pall.

In light of the above and for reasons as set forth in the answer, we shall sustain the examiner's § 103 rejection of method claims 7, 14, 19 24 and 25 over Pall.

With respect to dependent claims 8-13, 15-18 and 20, we find ourselves in agreement with appellants' position with respect to the examiner's § 103 rejection. This is so with respect to claim 8 and the claims which depend therefrom since claim 8 requires solidifying the treatment liquid that contains the fine particles which the examiner has not established to be fairly suggested by Pall's vaporization of the solvents or curing of any binder

resins. See brief, page 25 and reply brief, page 7. With respect to claim 10, the examiner has not shown where Pall reasonably suggests a drying temperature of approximately 400 degrees centigrade as argued by appellants (brief, page 26). Consequently, on this record, we will not sustain the examiner's § 103 rejection of claims 8-13, 15-18 and 20.

CONCLUSION

The decision of the examiner to reject claim 25 under 35 U.S.C. § 112, first paragraph as lacking descriptive support in the original specification is affirmed. The decision of the examiner to reject claim 6 under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as invention is reversed. The decision of the examiner to reject claims 1 and 4 under 35 U.S.C. § 102 as being anticipated by Pall is affirmed. The decision of the examiner to reject claims 2 and 3 under 35 U.S.C. § 102 as being anticipated by Pall is reversed. The decision of the examiner to reject claims 1, 2, 4-7, 14, 19 and 21-25 under 35 U.S.C. § 103 as being unpatentable over Pall is affirmed. The decision of the examiner to reject

claims 3, 8-13, 15-18 and 20 under 35 U.S.C. § 103 as being unpatentable over Pall is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

CHARLES F. WARREN)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
PETER F. KRATZ)	APPEALS
Administrative Patent Judge)	AND
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Appeal No. 1997-3524
Application No. 08/336,402

Page 24

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